

What is claimed is:

1. In a computing system, a method for providing runtime automatic spelling analysis and correction in connection with a service utilizing a query input mechanism, comprising:

receiving from a client computing device original query entry data comprising at least

5 one word;

analyzing the spelling of the at least one word and determining whether at least one word has a mistake; and

10 forming auto-corrected query entry data wherein said forming includes, for each word having a mistake, replacing the word having the mistake with an alternative word, if the alternative word satisfies at least one threshold confidence calculation.

2. A method according to claim 1, wherein before said receiving, said query entry data is input to the client computing device in the query input mechanism of the service.

15 3. A method according to claim 1, further including performing the service utilizing the auto-corrected query entry data instead of the original query entry data.

4. A method according to claim 3, wherein the service is a search engine, and said performing includes returning search results based upon said auto-corrected query entry data.

20

5. A method according to claim 3, further including sending the results of performing the service with the auto-corrected query entry data to the client computing device for display.

25

6. A method according to claim 5, further including transmitting link data to the client computing device for displaying a link on the client computing device, which link, if input by the user, re-performs the service with the original query entry data instead of the auto-corrected query entry data.

7. A method according to claim 6, further including updating at least one confidence score

associated with at least one replaced word of the auto-corrected query entry data to reflect that the user is dissatisfied with the auto-corrected query entry data.

8. A method according to claim 3, further including receiving again from the client
5 computing device the original query entry data; and

performing the service utilizing the original query entry data instead of the auto-corrected query entry data.

9. A method according to claim 8, further including updating at least one confidence score
10 associated with at least one replaced word of the auto-corrected query entry data to reflect that the user is dissatisfied with the auto-corrected query entry data.

10. A method according to claim 1, wherein said determining whether at least one word has a
mistake includes determining whether the at least one word is in a unified dictionary.

11. A method according to claim 10, further including dynamically updating said unified
dictionary, wherein said updating includes aggregating a plurality of data stores, with said
plurality of data stores including at least one dynamically updated data store.

20 12. A method according to claim 10, wherein said unified dictionary is formed from a
plurality data sources including a Web-specific lexicon.

13. A method according to claim 1, wherein said replacing includes:
for each word having a mistake, discovering at least one alternative word that is a nearest
25 neighbor to the word having the mistake;
calculating a confidence score for each of said at least one alternative word, wherein the
confidence score is a relative measure of a likelihood that the alternative word is the word
without the mistake; and

determining whether any of the at least one alternative words has a confidence score that

exceeds a first threshold.

14. A method according to claim 13, wherein said replacing further includes:

if any of the at least one alternative words has a confidence score that exceeds the first

5 threshold, determining for the two alternative words of the at least one alternative words having the highest confidence scores whether the difference between the two confidence scores is greater than a second threshold; and

if the difference is greater than the second threshold, replacing the word having the mistake with the alternative word having the highest confidence score.

10

15. A method according to claim 13, wherein said replacing further includes:

if there is only one alternative word that is a nearest neighbor to the word having the mistake, and if the confidence score for the one alternative word exceeds the first threshold, replacing the word having the mistake with the alternative word.

15

16. A computer readable medium having stored thereon a plurality of computer-executable instructions for performing the method of claim 1.

20

17. A modulated data signal carrying computer executable instructions for performing the method of claim 1.

18. A computing device comprising means for performing the method of claim 1.

25

19. In a computing system, a method for providing runtime automatic spelling analysis and correction in connection with a service accessed from a client computing device utilizing a query input mechanism, comprising:

inputting to the query input mechanism of the client computing device original query entry data comprising at least one word;

transmitting said original query entry data to a server computing device; and

receiving results from the performance of said service based on auto-corrected query entry data, wherein the forming of the auto-corrected query entry data in connection with said performance includes:

analyzing the spelling of the at least one word of the original query entry data and

5 determining whether at least one word has a mistake; and

for each word having a mistake, replacing the word having the mistake with an alternative word, if the alternative word satisfies at least one threshold confidence calculation.

20. A method according to claim 19, wherein the service is a search engine, and said results
10 are search results based upon said auto-corrected query entry data.

21. A method according to claim 19, further including displaying the results of performing
the service with the auto-corrected query entry data on the client computing device.

15 22. A method according to claim 19, further including displaying on the client computing
device a link, which link, if input by the user, re-performs the service with the original query
entry data instead of the auto-corrected query entry data.

23. A method according to claim 22, further including updating at least one confidence score
20 associated with at least one replaced word of the auto-corrected query entry data to reflect that
the user is dissatisfied with the auto-corrected query entry data.

24. A method according to claim 19, further including inputting again to the query input
mechanism of the client computing device the original query entry data; and

25 performing the service utilizing the original query entry data instead of the auto-corrected
query entry data.

25. A method according to claim 24, further including updating at least one confidence score
associated with at least one replaced word of the auto-corrected query entry data to reflect that

the user is dissatisfied with the auto-corrected query entry data.

26. A method according to claim 19, wherein said determining whether at least one word has a mistake includes determining whether the at least one word is in a unified dictionary.

5

27. A method according to claim 26, further including dynamically updating said unified dictionary, wherein said updating includes aggregating a plurality of data stores, with said plurality of data stores including at least one dynamically updated data store.

10

28. A method according to claim 26, wherein said unified dictionary is formed from a plurality data sources including a Web-specific lexicon.

15

29. A method according to claim 19, wherein said replacing includes:
for each word having a mistake, discovering at least one alternative word that is a nearest neighbor to the word having the mistake;
calculating a confidence score for each of said at least one alternative word, wherein the confidence score is a relative measure of a likelihood that the alternative word is the word without the mistake; and
determining whether any of the at least one alternative words has a confidence score that exceeds a first threshold.

20

30. A method according to claim 29, wherein said replacing further includes:
if any of the at least one alternative words has a confidence score that exceeds the first threshold, determining for the two alternative words of the at least one alternative words having the highest confidence scores whether the difference between the two confidence scores is greater than a second threshold; and
if the difference is greater than the second threshold, replacing the word having the mistake with the alternative word having the highest confidence score.

25

31. A method according to claim 29, wherein said replacing further includes:
if there is only one alternative word that is a nearest neighbor to the word having the
mistake, and if the confidence score for the one alternative word exceeds the first threshold,
replacing the word having the mistake with the alternative word.

5

32. A computer readable medium having stored thereon a plurality of computer-executable
instructions for performing the method of claim 19.

10 33. A modulated data signal carrying computer executable instructions for performing the
method of claim 19.

15 34. A computing device comprising means for performing the method of claim 19.

35. In a computing system, a method for displaying results of a runtime service based upon
an auto-corrected query data set, wherein the auto-corrected query data is different than an
entered query data set input to a query input mechanism, comprising:
first displaying the auto-corrected query data set in the query input mechanism;
second displaying the search results based upon the auto-corrected query data set; and
near the query input mechanism, third displaying a link which enables the re-performance
20 of the service with the entered query data set.

36. A method according to claim 35, further including:
in response to an inputting of the link, fourth displaying the entered query data set in the
query input mechanism; and
25 fifth displaying the search results based upon the entered query data set.

37. A method according to claim 35, further including:
in response to re-entering of the entered query data set to the query input mechanism,
fourth displaying the entered query data set in the query input mechanism; and

fifth displaying the search results based upon the entered query data set.

38. A computer readable medium having stored thereon a plurality of computer-executable instructions for performing the method of claim 35.

5

39. A computing device comprising means for performing the method of claim 35.

40. A computing device for providing runtime automatic spelling analysis and correction in connection with a network service utilizing a query input mechanism, comprising:

10 means for receiving from a client computing device original query entry data comprising at least one word;

means for analyzing the spelling of the at least one word and means for determining whether at least one word has a mistake;

15 means for generating auto-corrected query entry data if according to at least one threshold confidence calculation, the auto-corrected query entry data corrects at least one mistake in the original query entry data; and

means for performing said network service automatically replacing said original query entry data with said auto-corrected query entry data.

20 41. A computing device according to claim 40, wherein the network service is a search engine, and said means for performing includes means for returning search results based upon said auto-corrected query entry data.

25 42. A computing device according to claim 40, further including means for transmitting the results of performing the service with the auto-corrected query entry data to the client computing device for display.

43. A computing device according to claim 42, further including means for transmitting link data to the client computing device for displaying a link on the client computing device, which

link, if input by the user, re-performs the service with the original query entry data instead of the auto-corrected query entry data.

44. A computing device according to claim 43, further including means for updating at least 5 one confidence score associated with at least one replaced word of the auto-corrected query entry data to reflect that the user is dissatisfied with the auto-corrected query entry data.

45. A computing device according to claim 40, wherein said means for receiving further includes means for receiving from the client computing device the original query entry data 10 again; and

in response to receiving the original query entry data again, said means for performing performs the service utilizing the original query entry data instead of the auto-corrected query entry data.

46. A computing device according to claim 45, further including means for updating at least one confidence score associated with at least one replaced word of the auto-corrected query entry data to reflect that the user is dissatisfied with the auto-corrected query entry data.

47. A computing device according to claim 40, wherein said means for determining whether 20 at least one word has a mistake includes means for determining whether the at least one word is in a unified dictionary.

48. A computing device according to claim 47, wherein said unified dictionary is 25 dynamically updated, and is an aggregate data store aggregated from a plurality of data stores, with said plurality of data stores including at least one dynamically updated data store.

49. A computing device according to claim 47, wherein said unified dictionary is aggregated from a plurality data sources including a Web-specific lexicon.

50. A computing device according to claim 40, wherein said means for generating auto-corrected query entry data, for each word having a mistake, discovers at least one alternative word that is a nearest neighbor to the word having the mistake, calculates a confidence score for each of said at least one alternative word, wherein the confidence score is a relative measure of a 5 likelihood that the alternative word is the word without the mistake and determines whether any of the at least one alternative words has a confidence score that exceeds a first threshold.

51. A computing device according to claim 50, wherein if any of the at least one alternative words has a confidence score that exceeds the first threshold, said means for generating 10 determines for the two alternative words of the at least one alternative words having the highest confidence scores whether the difference between the two confidence scores is greater than a second threshold and if the difference is greater than the second threshold, said means for generating replaces the word having the mistake with the alternative word having the highest confidence score.

15 52. A computing device according to claim 50, wherein if there is only one alternative word that is a nearest neighbor to the word having the mistake and if the confidence score for the one alternative word exceeds the first threshold, said means for generating replaces the word having the mistake with the alternative word.